Author index

Adams, W.W. I.I.I. 367
Alconada-Magliano, T.M. 235
Alvarez, I. 420
Assiamah, A.A. 23

Baalmann, E. 359
Bacic, A. 380
Back, K. 467
Backhausen, J.E. 359
Barker, L.D.P. 197
Baroli, I. 288
Bauw, G. 56
Beßler, B. 140
Belingheri, L. 56
Böhme, K. 613
Bolte, S. 587
Borland, A.M. 342
Braun, M. 39
Brenac, P. 1
Breton, C. 531
Breviario, D. 334
Bröker, M. 92
Brummel, M. 263
Büker, M. 181
Bungard, R.A. 506
Bush, D.S. 23

Canel, C. 414
Casal, J.J. 235
Cervone, F. 165
Chappell, J. 467
Chaudhury, A.M. 492
Chino, M. 12
Craig, S. 492
Critchley, J. 445
Czernic, P. 467

Davis, A.R. 305
De Lorenzo, G. 165
Deiting, U. 428
Delhaize, E. 251
Demmig-Adams, B. 367
Dennis, E.S. 492
Desimone, M. 459
Devitt, M.L. 547
Devoto, A. 165
Dietrich, P. 277
Dietz, K-J. 587
Dong, B. 251
Drake, B. 547
Dreyer, I. 277
Ducrot, P.H. 467
Ducruet, J-M. 587

Eckerskorn, C. 477
Edwards, E.S. 553
Edwards, G.E. 632
Exss-Sonne, P. 73

Faoro, F. 334
Feller, U. 297
Femenia, A. 438
Ferguson, I.B. 197
Fieuw, S. 82
Fiskesjö, G. 175
Ford, Y-Y. 205
Franklin, L.A. 257
Fujiwara, T. 12

Gäbler, R. 140
Galland, P. 269
Garcés, R. 595
Garosi, P. 438
Gatz, C. 235
Gehring, C.A. 581
Geigenberger, P. 428
Geiger, M. 428
Geisler, M. 522
Geli, M.I. 420
Giani, S. 334
Glover, J.A. 492
Goss, R. 613
Greer, D.H. 189
Grimm, R. 477
Guern, J. 452

Haase, A. 132
Hajirezaei, M. 428
Hamel, F. 531
Handley, L.L. 397
Harris, G.C. 214
Harris, P.J. 380
Havaux, M. 242
Hayakawa, T. 319
Hayashi, H. 12
Hedrich, R. 277
Heide, L. 407
Heineke, D. 82
Heldt, H-W. 181
Helleboid, S. 56
Hibberd, J.M. 506
Hilbert, J-L. 56
Hirai, N. 319
Hirano, H. 514
Hoge, J.H.C. 414
Horbowicz, M. 1
Hori, H. 319
Houde, M. 531
Hußmann, M. 181
Hueros, G. 121

Inada, N. 153
Ishiwatari, Y. 12
Isla, M.I. 601
Itoh, K. 319
Itoh, S. 145

Jeschke, W.D. 506
Johanningmeier, U. 459
Jun, B.O. 375

Kahmann, U. 73
Kalusche, B. 132
Karlsson, G. 175
Karsten, U. 257
Kashem, M.A. 319
Keller, H. 467
Kim, S-G. 375
Kitzmann, C. 359
Klein, D. 223
Knox, J.P. 32
Knox, R.B. 492
Köckenberger, W. 132
Köhler, J. 132
Königer, M. 214
Komor, E. 132
Kranz, E. 327
Krieger, A. 587
Kruse, A. 82
Kühnemann, F. 140
Kumlehn, J. 327
Kunze, G. 92
Kunze, I. 92
Kuroiwa, H. 153
Kuroiwa, T. 153
Kwon, Y.M. 375

Laisk, A. 632
Lapous, D. 452
Laurière, C. 452
Lavithis, M. 492
Leckie, F. 165
Lee, Y. 375
Leegood, R.C. 342
Lemoine, Y. 242
Li, S-M. 407
Lindemann, P. 477
Logan, B.A. 367
Lohaus, G. 181
Lopes-Cardoso, M.I. 414
Lörz, H. 327
Low, N.H. 305
Lucas, W.J. 12
Luckner, M. 477
Ludevid, D. 420
Lüning, K. 257
Lupotto, E. 165

Mäck, G. 113
Malmqvist, K.G. 175
Mancha, M. 595
Manning, K. 622
Manteuffel, R. 92
Marco, Y. 467
Martinez-Barajas, E. 567
Mathieu, Y. 452
Matsukura, C. 145
Mazzella, M.A. 235
McConchie, R.M. 581
McFarland, K.C. 12
Meins, F. Jr. 92
Melis, A. 288
Melzer, M. 407
Metzler, A. 132
Michel, K-P. 73
Miller, A.J. 64
Mitsui, T. 319
Moeller, D.L. 367
Morris, D.A. 606
Mühlenweg, A. 407
Müller-Röber, B. 82
Müntz, K. 92

Nemoto, K. 12, 145

Obendorf, R.L. 1
Ohigashi, H. 319
Okada, S. 445

Pallon, J. 175
Paradis, J.C. 305
Parish, R.W. 581
Parker, D.R. 389
Pasquali, G. 414
Pearcy, R.W. 214
Pedler, J.F. 389
Pimentel, E. 420
Pistorius, E.K. 73
Ponchet, M. 467
Press, M.C. 506
Prins, H.B.A. 100
Pylatuik, J.D. 305

Qin, X. 334
Quick, W.P. 506

Rahfeld, J. 121
Randall, D.D. 567
Ratcliffe, R.G. 205
Raven, J.A. 574
Read, S.M. 380
Rengel, Z. 251
Ricci, P. 467
Ripley, B.D. 547
Roberts, K. 438
Robertson, J.A. 438
Robins, R.J. 205
Robinson, D. 397
Robinson, J.S. 606
Roelfsema, M.R.G. 100
Roulin, S. 297
Roux, S.J. 553
Ruppel, H.G. 73

Sack, F.D. 352, 522
Sakai, A. 153
Salamini, F. 121
Sampietro, A.R. 601
Sarmiento, C. 595
Sassa, H. 514
Schöniger, R. 477
Schütt, B.S. 263
Scheel, D. 51
Scheibe, R. 359
Scheres, B. 483
Schmidt, A. 51
Schmitgen, S. 140
Schofield, R.M.S. 175
Scholes, J.D. 506
Scholten-Beck, G. 73
Schuch, R. 263
Scrimgeour, C.M. 397
Selvendran, R.R. 438
Shibaoka, H. 539
Silverman, F.P. 23
Singh, M.B. 492
Smith, S.J. 64
Smith, S.M. 445
Soave, C. 181
Sonnewald, U. 428
Spener, F. 263
Stafstrom, J.P. 547
Stitt, M. 223, 428
Strack, D. 51

Takaha, T. 445
Takesue, K. 539
Tanimoto, E. 145
Tardy, F. 242
Taylor, P.E. 492
Tècsi, L.I. 342
Templeton, M.D. 197
Thomas, B. 235
Thompson, H.J.M. 32
Thompson, R. 121
Todoroki, Y. 319
Torrent, M. 420
Turner, A. 380

Urban, W. 140

van den Berg, C. 483
van der Fits, L. 414
van der Heijden, R. 414
van der Leij, M. 64
Van't Hof, J. 561
Vasseur, J. 56
Vattuone, M.A. 601
Venis, M.A. 581
Verpoorte, R. 414
Verscht, J. 132
Vetter, S. 359

Wagner, E. 459
Wagner, T.A. 352
Waldron, K.W. 438
Walker, R.P. 342
Wasterneys, G.O. 39
Weisbeek, P. 483
Whitmer, S. 414
Wiencke, C. 257
Wiesner, P. 277
Wilhelm, C. 613

Yamaguchi, J. 145
Yang, M. 522
Yanovsky, M.J. 235
Yin, Z-H. 574

Author index

Adams, W.W. I.I.I. 367
Alconada-Magliano, T.M. 235
Alvarez, I. 420
Assiamah, A.A. 23

Baalmann, E. 359
Bacic, A. 380
Back, K. 467
Backhausen, J.E. 359
Barker, L.D.P. 197
Baroli, I. 288
Bauw, G. 56
Beßler, B. 140
Belingheri, L. 56
Böhme, K. 613
Bolte, S. 587
Borland, A.M. 342
Braun, M. 39
Brenac, P. 1
Breton, C. 531
Breviario, D. 334
Bröker, M. 92
Brummel, M. 263
Büker, M. 181
Bungard, R.A. 506
Bush, D.S. 23

Canel, C. 414
Casal, J.J. 235
Cervone, F. 165
Chappell, J. 467
Chaudhury, A.M. 492
Chino, M. 12
Craig, S. 492
Critchley, J. 445
Czernic, P. 467

Davis, A.R. 305
De Lorenzo, G. 165
Deiting, U. 428
Delhaize, E. 251
Demmig-Adams, B. 367
Dennis, E.S. 492
Desimone, M. 459
Devitt, M.L. 547
Devoto, A. 165
Dietrich, P. 277
Dietz, K-J. 587
Dong, B. 251
Drake, B. 547
Dreyer, I. 277
Ducrot, P.H. 467
Ducruet, J-M. 587

Eckerskorn, C. 477
Edwards, E.S. 553
Edwards, G.E. 632
Exss-Sonne, P. 73

Faoro, F. 334
Feller, U. 297
Femenia, A. 438
Ferguson, I.B. 197
Fieuw, S. 82
Fiskesjö, G. 175
Ford, Y-Y. 205
Franklin, L.A. 257
Fujiwara, T. 12

Gäbler, R. 140
Galland, P. 269
Garcés, R. 595
Garosi, P. 438
Gatz, C. 235
Gehring, C.A. 581
Geigenberger, P. 428
Geiger, M. 428
Geisler, M. 522
Geli, M.I. 420
Giani, S. 334
Glover, J.A. 492
Goss, R. 613
Greer, D.H. 189
Grimm, R. 477
Guern, J. 452

Haase, A. 132
Hajirezaei, M. 428
Hamel, F. 531
Handley, L.L. 397
Harris, G.C. 214
Harris, P.J. 380
Havaux, M. 242
Hayakawa, T. 319
Hayashi, H. 12
Hedrich, R. 277
Heide, L. 407
Heineke, D. 82
Heldt, H-W. 181
Helleboid, S. 56
Hibberd, J.M. 506
Hilbert, J-L. 56
Hirai, N. 319
Hirano, H. 514
Hoge, J.H.C. 414
Horbowicz, M. 1
Hori, H. 319
Houde, M. 531
Hußmann, M. 181
Hueros, G. 121

Inada, N. 153
Ishiwatari, Y. 12
Isla, M.I. 601
Itoh, K. 319
Itoh, S. 145

Jeschke, W.D. 506
Johanningmeier, U. 459
Jun, B.O. 375

Kahmann, U. 73
Kalusche, B. 132
Karlsson, G. 175
Karsten, U. 257
Kashem, M.A. 319
Keller, H. 467
Kim, S-G. 375
Kitzmann, C. 359
Klein, D. 223
Knox, J.P. 32
Knox, R.B. 492
Köckenberger, W. 132
Köhler, J. 132
Königer, M. 214
Komor, E. 132
Kranz, E. 327
Krieger, A. 587
Kruse, A. 82
Kühnemann, F. 140
Kumlehn, J. 327
Kunze, G. 92
Kunze, I. 92
Kuroiwa, H. 153
Kuroiwa, T. 153
Kwon, Y.M. 375

Laisk, A. 632
Lapous, D. 452
Laurière, C. 452
Lavithis, M. 492
Leckie, F. 165
Lee, Y. 375
Leegood, R.C. 342
Lemoine, Y. 242
Li, S-M. 407
Lindemann, P. 477
Logan, B.A. 367
Lohaus, G. 181
Lopes-Cardoso, M.I. 414
Lörz, H. 327
Low, N.H. 305
Lucas, W.J. 12
Luckner, M. 477
Ludevid, D. 420
Lüning, K. 257
Lupotto, E. 165

Mäck, G. 113
Malmqvist, K.G. 175
Mancha, M. 595
Manning, K. 622
Manteuffel, R. 92
Marco, Y. 467
Martinez-Barajas, E. 567
Mathieu, Y. 452
Matsukura, C. 145
Mazzella, M.A. 235
McConchie, R.M. 581
McFarland, K.C. 12
Meins, F. Jr. 92
Melis, A. 288
Melzer, M. 407
Metzler, A. 132
Michel, K-P. 73
Miller, A.J. 64
Mitsui, T. 319
Moeller, D.L. 367
Morris, D.A. 606
Mühlenweg, A. 407
Müller-Röber, B. 82
Müntz, K. 92

Nemoto, K. 12, 145

Obendorf, R.L. 1
Ohigashi, H. 319
Okada, S. 445

Pallon, J. 175
Paradis, J.C. 305
Parish, R.W. 581
Parker, D.R. 389
Pasquali, G. 414
Pearcy, R.W. 214
Pedler, J.F. 389
Pimentel, E. 420
Pistorius, E.K. 73
Ponchet, M. 467
Press, M.C. 506
Prins, H.B.A. 100
Pylatuik, J.D. 305

Qin, X. 334
Quick, W.P. 506

Rahfeld, J. 121
Randall, D.D. 567
Ratcliffe, R.G. 205
Raven, J.A. 574
Read, S.M. 380
Rengel, Z. 251
Ricci, P. 467
Ripley, B.D. 547
Roberts, K. 438
Robertson, J.A. 438
Robins, R.J. 205
Robinson, D. 397
Robinson, J.S. 606
Roelfsema, M.R.G. 100
Roulin, S. 297
Roux, S.J. 553
Ruppel, H.G. 73

Sack, F.D. 352, 522
Sakai, A. 153
Salamini, F. 121
Sampietro, A.R. 601
Sarmiento, C. 595
Sassa, H. 514
Schöniger, R. 477
Schütt, B.S. 263
Scheel, D. 51
Scheibe, R. 359
Scheres, B. 483
Schmidt, A. 51
Schmitgen, S. 140
Schofield, R.M.S. 175
Scholes, J.D. 506
Scholten-Beck, G. 73
Schuch, R. 263
Scrimgeour, C.M. 397
Selvendran, R.R. 438
Shibaoka, H. 539
Silverman, F.P. 23
Singh, M.B. 492
Smith, S.J. 64
Smith, S.M. 445
Soave, C. 181
Sonnewald, U. 428
Spener, F. 263
Stafstrom, J.P. 547
Stitt, M. 223, 428
Strack, D. 51

Takaha, T. 445
Takesue, K. 539
Tanimoto, E. 145
Tardy, F. 242
Taylor, P.E. 492
Tècsi, L.I. 342
Templeton, M.D. 197
Thomas, B. 235
Thompson, H.J.M. 32
Thompson, R. 121
Todoroki, Y. 319
Torrent, M. 420
Turner, A. 380

Urban, W. 140

van den Berg, C. 483
van der Fits, L. 414
van der Heijden, R. 414
van der Leij, M. 64
Van't Hof, J. 561
Vasseur, J. 56
Vattuone, M.A. 601
Venis, M.A. 581
Verpoorte, R. 414
Verscht, J. 132
Vetter, S. 359

Wagner, E. 459
Wagner, T.A. 352
Waldron, K.W. 438
Walker, R.P. 342
Wasterneys, G.O. 39
Weisbeek, P. 483
Whitmer, S. 414
Wiencke, C. 257
Wiesner, P. 277
Wilhelm, C. 613

Yamaguchi, J. 145
Yang, M. 522
Yanovsky, M.J. 235
Yin, Z-H. 574

Subject index

α-Amylase 319
α-Mannosidase 92
β-1,3-Glucanase 56, 92
β-Carotene 367
β-Glucosyl Yariv reagent 32
$^{15}N/^{14}N$ 397
2-Deoxyglucose 223
Abscisic acid 334
Abscisic acid (analog) 319
Actin filament 539
Actin microfilament 39
Active oxygen 459
Acyl carrier protein 263
Alkalinization 581
Alkaloid biosynthesis (^{15}N-NMR) 205
Allium 175
Alocasia (photoinhibition) 214
Aluminum 175
Aluminum (tolerance, toxicity) 389
Aluminum toxicity 531
Amino acid 82, 181
Anther 492
Antheraxanthin 613
Anthocyanin 235
Antibody (JIM 5, JIM 7) 438
Antisense inhibition 82, 445
Apical dominance 547
Apoplastic pH 100
Arabidopsis 483
Arabidopsis (mutants) 492, 522
Arabidopsis (pho2 mutant) 251
Arabidopsis (protein secretion) 420
Arabidopsis guard cell 100
Arabinogalactan protein 32
Asparagine synthetase 181
ATP-dependent proteolysis 459
Auxin 539, 622
Auxin (carriers) 606
Auxin receptor 581
Axillary bud 547

Beta 113
Blue-light receptor 269
Brassica 263
Brassica (cell wall) 438
Brassicaceae 305
Brefeldin A 606
Bromeliaceae 140
Bud development 547

C3 and C4 plants (*Triticum*, *Zea*) 574
C4 plant 632
Calcium 23, 175
Calcium-dependent protein kinase 197
Callose 380
Callose synthase 380
Canaline 375
Capsicein 467
Capsicum (fruit plastids) 359
Carbohydrate (floral nectar) 305
Carbon isotope discrimination 574
Carboxylation (non-Rubisco) 574
Cardenolide 477
Cardenolide 16′-*O*-glucohydrolase purification 477
Carotenoid 242, 506
Cation sensitivity 277
Cell culture 51, 327, 414
Cell differentiation 483, 522
Cell extension 145
Cell fate 483
Cell polarity 553
Cell suspension culture 32
Cell wall 153
Cell wall (crossed polylamellate structure) 539
Cell wall (structure) 438
Cell wall extensibility 145
Cell wall protein 165
Ceratodon (graviresponse) 352
Ceratopteris 553
Characean algae (rhizoids, protonemata) 39
Chenopodium 223
Chitinase 92
Chlorophyll antenna size 288
Chlorophyll fluorescence 189, 632
Chloroplast 153, 297
Chloroplast DNA 153
Chondrus 257
Cichorium 56
Clusia 342
Coleoptile 153
Companion cell-sieve tube system 12
Copper 389
Crassulacean acid metabolism 342, 587
Cryptogein 467
Cucurbita (auxin transport) 606
Cuphea 263
Cuscuta (photosynthesis) 506
Cyanobacteria (mesophilic, thermophilic) 73
Cysteine 375
Cysteine proteinase 531
Cytokinin 23
Cytoplasmic pH 452, 581
Cytosol (nitrate) 64

D-*chiro*-inositol 1
D-enzyme 445
D1 protein 214, 288
Dark metabolism 359
Datura 205
Daucus (arabinogalactan proteins) 32
Defense gene activation 452
Desiccation tolerance (seed) 1
Development (microspore) 492
Digitalis 477
Dormancy (bud) 547
Dunaliella (photoinhibition) 288

Electron transport 288
Elicitor 51
Embryogenesis 327
Epidermis 522
Epitope (pectin) 438
Ethylene 140
Extracellular polypeptide 56

Fagopyritol 1
Fagopyrum (embryo development) 1
Far-UV receptor 269
Fatty acid synthase 263
Fern gametophyte 553
Fiber 561
FK506-binding protein 121
Floral nectary (anatomy) 305
Flower 514
Fragaria 622
Fruit (glucokinase) 567
Fruit quality 622
Fruit ripening 622

Galactosyl cyclitols (maturation sugars) 1
Gene expression (*RAmy1A*) 319
Gene expression 622
Gene regulation 334, 467, 531
Genetic engineering 414
Geranyltransferase 407
Gibberellin 145, 539
Glucanotransferase 445
Glucokinase 567
Glutamine synthetase 113
Glyceraldehyde 3-phosphate dehydrogenase 359
Glycosyl hydrolases (family 1) 477
Golgi apparatus (protein traffic) 606
Gossypium (fiber development) 561
Gravimorphism 352
Gravitropism 39, 352
Gravity 553
Growth (cotton fibers) 561
Guard cell 277, 581

Hairy roots 113
Heat stress 214
Helianthus (seed) 595
Heterotrophism 506
Hexose phosphorylation 567
Hordeum 64, 459
Hordeum (carotenoid, photoprotection) 242
Lycopersicon (glucokinase) 567
Hypersensitive reaction 467

Immunophilin 121
Invertase 601
Iron deficiency 73
Iron-deficiency-induced protein A (IdiA) 73
Irradiance perception 235
Isocitrate dehydrogenase 82
Isoenzyme (GS oligomers, subunits) 113

Lanthanum 389
Leaf sheath elongation 145
Light 553
Light (C_2H_4 production) 140
Light adaptation 613
Light harvesting 242
Light stress 242
Lithospermum 407
Lysine-rich γ-zein 420

Malate dehydrogenase 359
Malate valve 359
Male sterility 492
Malic acid 389
Malus (protein kinase) 197
Manganese deficiency 73
Mantoniella 613
Medicago 23
Medium-chain fatty acids 263
Mehler reaction 632
Membrane transport 23
Membrane potential 100
Membrane transport (auxins) 606
Mesembryanthemum 587
Metabolic pathways 622
Metabolism 223
Methyl jasmonate 407
Methyl-esterification 438
Microinjection 39
Micronucleoli 561
Microsequencing 56
Microsome 595
Microtubule (reorientation) 539
Microtubule 39, 334
Mutant (*Arabidopsis*, male sterility) 492
Mutant (*Arabidopsis*, stoma) 522
Mutant (pho2 *Arabidopsis*) 251

N-Hydroxycinnamoyl-tyramine 51

Nectary (intrafloral location) 305
Nectary phloem 305
Nicotiana 12, 92, 380, 467
Nicotiana (defense genes) 452
Nicotiana (transformation, wounding) 165
Nitrate assimilation 397
Nitrate compartmentation 64
Nitrogen isotope fractionation 397
Nitrogen metabolism 113
Nitrogen remobilization 297
Nitrogen source 574
Node (vasculature) 132
Non-photochemical quenching of chlorophyll fluorescence 613
Nuclear movement 553
Nucleolus 561
Nucleotide 428

Oil body 595
Oleate desaturase 595
Ornithine 375
Ornithine carbamoyltransferase 375
Oryza 334
Oryza (α-amylase, sugar accumulation) 319
Oryza (senescence) 153
Oryza (dwarf mutant) 145
Oryza (phloem thioredoxin) 12
Oryzalin 334
Oxalate oxidase 531
Oxygen 632

Palythene 257
Palythine 257
Palythinol 257
Paphiopedilum 581
Parasite 506
Pathogenesis response elicitor 531
Pathogenesis-related protein 514
Pectic polysaccharide 438
Peptidylproline *cis-trans*-isomerase 121
Phaseolus 375
Phaseolus (photoinhibition) 189
Phaseolus (polygalacturonase-inhibiting protein) 165
Phenylpropanoid metabolism 51
Phloem 132, 181
Phloem function 12
Phosphate (translocation, uptake) 251
Phospho*enol*pyruvate carboxykinase 342
Phospho*enol*pyruvate carboxylase 342
Phosphorylation (sugars) 567
Photoacoustic spectroscopy 140
Photochemical efficiency of PSII 214
Photoinhibition 189, 214, 288, 367
Photon supply 189
Photorespiration 632
Photosynthesis 506
Photosynthesis (C4) 632
Photosynthetic oxygen evolution 242
Photosystem II 288, 587
Phototropism 269
Phycomyces 269
Phytochrome A 235
Phytohormone 205
Phytophthora 51
Pisum 297
Pisum (bud dormancy) 547
Plasma membrane 197, 380
Plasmodesmata (protein trafficking) 12
Plastid 352
Polarity 352
Pollen (ultrastructure) 492
Pollen tube 380
Polyamine 205
Polygalacturonase-inhibiting protein 165
Potassium channel (inward rectifier, slow outward rectifier) 100
Prenyltransferase 407
Product entrapment 380
Prolamin (maize) 420
Protein degradation 459
Protein folding 121
Protein secretion 92
Proteolysis 297
Protoplast 352
Putrescine 205
Pyrophosphatase 428
Pyrus 514

Raffinose series oligosaccharides 1
Red-light receptor 269
Remobilisation (nitrate) 64
Rhizotoxicity 175
Ribulose-1,5 bisphosphate carboxylase/oxygenase 342, 459, 506
Ricinus (phloem, sucrose) 132
Root 175
Root (nitrate) 64
Root culture (transformed) 205
Root hair growth 23
Root meristem 483
Roots 181
Rosaceae 514

Schefflera 367
Secondary metabolism 414
Secretory pathway 420
Senescence 153, 297
Shikonin 407
Shinorine 257
Sieve tube 132
Signal transduction 23, 452
Sink tissue 197
Solanum tuberosum 445
Solanum 51
Solanum (carbohydrate metabolism) 428
Solanum (phytochrome) 235
Solanum (transgenic) 82
Solanum (vacuolar invertase) 601
Somatic embryogenesis 32, 56
Source-sink 189
Spinacia 263
Spinacia (chloroplasts) 359
Stable states (hyperpolarized, depolarized) 100
Starch 428
Starch degradation 145
Starch metabolism 445
Stem growth 235
Steroid hormone receptor 121
Stigma (gene expression) 165
Stoma (development, patterning) 522
Stoma (modified) 305
Stomatal opening 581
Strictosidine synthase 414
Stroma (chloroplast, protease) 459
Stromal enzymes 297
Style 514
Sucrose 428
Sucrose deprivation 132
Sucrose hydrolysis 601
Sucrose phosphate synthase 235
Sugar accumulation (rice) 319
Sugar sensing (catabolite repression) 223
Sun/shade acclimation 367
Suspension culture 92
Synechococcus elongatus 73
Synechococcus PCC 6301 and PCC 7942 73

Temperature adaptation 595
Terpenoid indole alkaloids 414
Thaumatin-like protein 514
Thermoluminescence 587
Thioesterase 263
Thioredoxin (mutants) 12
Tillandsia 140
Tip growth 39
Toxicity 175
Transgenic *Arabidopsis* 420
Transgenic plant (potato) 82
Triacylglycerol 595
Triticum 327, 389
Triticum (Al toxicity) 531
Tropane alkaloid 205
Tryptophan decarboxylase 414
Tuber 428, 601
Tubulin 334

UV-sunscreens 257

Vacuole 601
Vacuolar enzymes 92
Vacuole (nitrate) 64
Vigna (epicotyl) 539
Violaxanthin cycle 613
Voltage clamp 100

Wounding 165

Xanthophyll cycle pigments 214
Xanthophyll isomers 242
Xylem 181

Zea 121
Zea (Illinois High Protein, Illinois Low Protein) 181
Zea (protein kinase) 197
Zeaxanthin 613
Zeaxanthin retention 367
Zein targeting 420
Zygote 327